CHAPTER VI
CONCLUSION

The two cell lines, AMC-K46 and HeLa, have been used to evaluate the cytotoxicity assay for the ethanolic extracts from the indigenous medicinal annonaceous plants. The basic characteristics of the cell lines, necessary for the assay, has been studied including the growth pattern and the optimum dividing and non-dividing densities of the cells for the MTT assay. Five species of the plants have been extracted including; *Annona reticulata* (bark, leaves and young fruits), *Annona squamosa* (leaves, and young fruit), *Cananga odorata* (leaves), *Cananga odorata* var. *fruticosa* (leaves) and *Melodorum fruticosum* (leaves). The highest active extract to the AMC-K46 was from *M. fruticosum* but exhibited non selective to the dividing and non-dividing cells. The moderated cytotoxic effect to the AMC-K46 was from *A. squamosa* (young fruit). The other extracts were identified with no activity to the AMC-K46. The extracts from *A. reticulata* (young fruit) and *A. squamosa* (young fruit) expressed the highest and highly cytotoxic effects respectively. The three extracts have been chosen to be used to study the genotoxicity assay to the AMC-K46; *A. reticulata* (young fruit), *A. squamosa* (young fruit) and *M. fruticosum* (leaves). The extracts from *A. reticulata* and *A. squamosa* inhibited the mitotic division of the cells. The extracts were also expressed the highly significant difference of the percentage of decreasing of mitotic index (P.D.M.I.) of the extract exposed cells to those of the unexposed cells. The metaphases with the highest frequency of the chromosome, 67 and 68, have been chosen as the modal chromosome number. None of the above three extracts expressed the significant genotoxicity on the exposed cells to the unexposed cells (controls). The 4 types of aberration have been observed from the crude extract exposed cells; acentric fragment (ace), chromatid break (ctb), chromatid deletion (ctd) and chromatid gap (ctg).